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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,720	03/09/2001	Masaki Iijima	2001-0271A	5092

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EXAMINER

STRICKLAND, JONAS N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/12/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,720

Applicant(s)

IIJIMA ET AL.

Examiner

Jonas N Strickland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 5-7 are objected to because of the following informalities: Claim 1, line 8 recites "absorbent", while claim 5, line 3 recites "adsorbent". It is suggested that Applicant recite – absorbent --. Appropriate correction is required.

Furthermore, claims 6 and 7 also make reference to using an adsorption and adsorbent. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 5, recites "adsorbent is at least one oxide selected from....". This is improper Markush language. It is suggested that Applicant recite – absorbent is at least one oxide selected from the group consisting of --.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Carnell et al. (GB 2281077A).

Carnell et al. discloses a process for producing a synthesis gas (p. 1, lines 1-6 and p. 4, lines 11-15). Carnell et al. continues to disclose wherein a hydrocarbon feedstock stream containing hydrogen sulfide and carbon dioxide is passed through a sulfide removing device comprised of a hydrogen sulfide absorbent and then adding carbon dioxide and steam over a steam reforming catalyst (a steam reforming reaction) (see abstract). Carnell et al. also discloses passing the natural gas through a combustion radiation portion and recovering energy from combustion products, and then subjecting the hydrogen sulfide stream to the hydrogen sulfide absorbent, with respect to claim 2 (see abstract and p. 2, lines 34-37). With respect to claims 3 and 4, Carnell et al. discloses wherein the carbon dioxide stream is used as fuel and the carbon dioxide source from synthesis gas production (p. 3, lines 29 – p. 4, line 18). With respect to claim 5, Carnell et al. also discloses wherein the absorbent is comprised of iron and zinc metal oxides (col. 4, lines 23-29).

With respect to claim 6, Carnell et al. discloses a process for producing a synthesis gas wherein the feed gas stream is passed through two hydrogen sulfide absorbing devices, with two different absorbents. The first desulfurizing bed is comprised of zinc oxide, while the second desulfurizing bed is comprised of copper and zinc compounds (p. 5, lines 1-7). However, it would have been inherent to one of ordinary skill in the art to use triiron tetraoxide in one of the desulfurizing columns,

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because Carnell et al. discloses wherein iron oxides are used as particulate absorbing materials for absorbing hydrogen sulfide (col. 4, lines 23-29).

Allowable Subject Matter

7. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The cited prior art does not disclose having a third placed desulfurizing column designed to execute an operation of reducing the absorbent that has been regenerated and wherein the operation is sequentially executed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP 3,947,547; USP 4,091,073; USP 4,251,495; USP 4,521,387; USP 4,552,572; USP 4,769,045; USP 4,925,644; USP 5,556,605; USP 5,244,641; USP 5,958,359; USP 6,103,206; USP 6,274,031.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH. 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.



Jonas N. Strickland
January 29, 2003



WAYNE A. LANGEL
PRIMARY EXAMINER